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(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N. V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **VAN BEEK, Michael, Cornelis** [NL/DE]; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **BAKKER, Bernardus, Leonardus, Gerardus** [NL/DE]; Philips Intellectual Property &, Standards

GmbH, Weissshausstr. 2, 52066 Aachen (DE). **RENSEN, Wouter, Harry, Jacinth** [NL/DE]; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **SCHUURMANS, Frank, Jeroen, Pieter** [NL/DE]; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

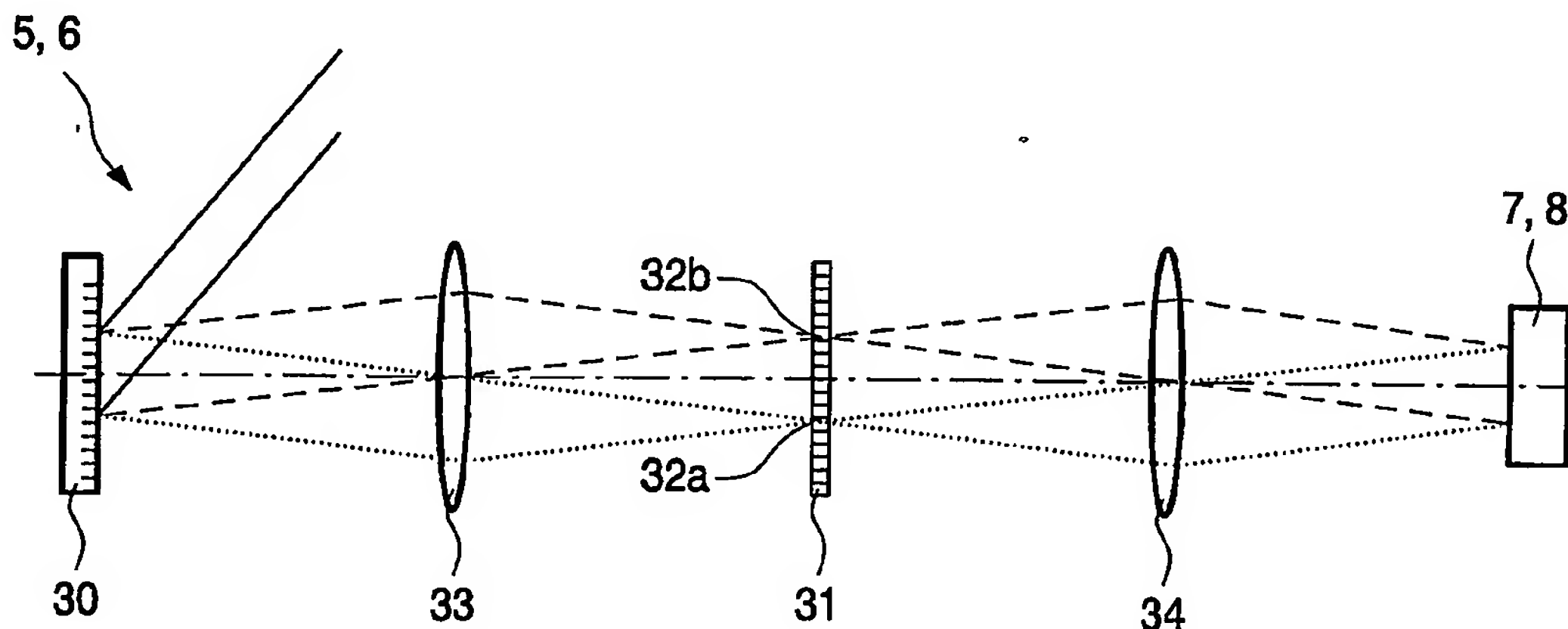
(74) Agents: **VOLMER, Georg et al.**; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

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(54) Title: OPTICAL ANALYSIS SYSTEM, BLOOD ANALYSIS SYSTEM AND METHOD OF DETERMINING AN AMPLITUDE OF A PRINCIPAL COMPONENT



(57) Abstract: The optical analysis system (20) is arranged to determine an amplitude of a principal component of an optical signal. The optical analysis system (20) comprises a multivariate optical element (5, 6) for weighing the optical signal by a spectral weighing function and a detector (7, 8) for detecting the weighed optical signal. The optical signal comprises the principal component and a further component which was not accounted for when designing the spectral weighing function. Therefore, the detected weighed optical signal comprises a part relating to the amplitude of the principal component and a further part relating to a further amplitude of the further component. The optical analysis system (20) further comprises a modulator element (13) for modulating the detected weighed optical signal. The difference between the modulated detected weighed optical signal and the detected weighed optical signal relates to the amplitude of the principal component and thus allows for determining the amplitude of the principal component in an accurate way. The blood analysis system (40) comprises such an optical analysis system (20). The method of determining an amplitude of an principal component makes use of the optical analysis system (20).

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